

CLAIMS:

What is claimed is:

1. A disposable downhole tool comprising a material that dissolves when exposed to a chemical solution.
2. The disposable downhole tool of claim 1 wherein the material comprises: an epoxy resin, a fiberglass, or a combination thereof.
3. The disposable downhole tool of claim 1 wherein the material comprises: a fiberglass and a binding agent.
4. The disposable downhole tool of claim 1 wherein the chemical solution comprises: a caustic fluid, an acidic fluid, or a combination thereof.
5. The disposable downhole tool of claim 1 wherein the material is customizable to achieve a desired dissolution rate when the material is exposed to the chemical solution.
6. The disposable downhole tool of claim 1 further comprising an enclosure for storing the chemical solution.
7. The disposable downhole tool of claim 6 further comprising an activation mechanism for releasing the chemical solution from the enclosure.

8. The disposable downhole tool of claim 7 wherein the activation mechanism comprises a frangible enclosure body.
9. The disposable downhole tool of claim 7 wherein the activation mechanism is timer-controlled.
10. The disposable downhole tool of claim 7 wherein the activation mechanism is hydraulically operated.
11. The disposable downhole tool of claim 7 wherein the activation mechanism is electrically operated.
12. The disposable downhole tool of claim 7 wherein the activation mechanism is operated by a communication means.
13. The disposable downhole tool of claim 1 wherein the tool is a frac plug.
14. The disposable downhole tool of claim 1 wherein the tool is a bridge plug.
15. The disposable downhole tool of claim 1 wherein the tool is a packer.

16. A method for performing a downhole operation wherein a downhole tool is disposed within a wellbore comprising: dissolving the tool within the wellbore via a chemical solution.
17. The method of claim 16 wherein the tool is fabricated from a material comprising: epoxy resin, fiberglass, or a combination thereof.
18. The method of claim 16 wherein the tool is fabricated from a material comprising: a fiberglass and a binding agent.
19. The method of claim 16 wherein the chemical solution comprises: a caustic fluid, an acidic fluid, or a combination thereof.
20. The method of claim 16 further comprising fabricating the tool from a material that may be customized to achieve a desired dissolution rate of the tool.
21. The method of claim 16 wherein the chemical solution may be customized to achieve a desired dissolution rate of the tool.
22. The method of claim 16 wherein the chemical solution is applied to the tool before performing the downhole operation.

23. The method of claim 16 wherein the chemical solution is applied to the tool during the downhole operation.
24. The method of claim 16 wherein the chemical solution is applied to the tool after performing the downhole operation.
25. The method of claim 16 wherein the chemical solution is applied to the tool via a mechanical operation.
26. The method of claim 16 wherein the chemical solution is applied to the tool via a hydraulic operation.
27. The method of claim 16 wherein the chemical solution is applied to the tool via an electrical operation.
28. The method of claim 16 wherein the chemical solution is applied to the tool via a timer-controlled operation.
29. The method of claim 16 wherein the chemical solution is applied to the tool using a communication means.

30. The method of claim 16 wherein the chemical solution is applied to the tool by dispensing the chemical solution into the wellbore.
31. The method of claim 30 wherein the dispensing step comprises injecting the chemical solution into the wellbore.
32. The method of claim 30 wherein the dispensing step comprises:
lowering a frangible object containing the chemical solution into the wellbore; and
breaking the frangible object.
33. The method of claim 30 wherein the dispensing step comprises:
lowering a conduit into the wellbore; and
flowing the chemical solution through the conduit onto the tool.
34. The method of claim 16 further comprising:
moving a dart within the wellbore; and
engaging the dart with the tool to release the chemical solution.
35. The method of claim 34 wherein the dart contains the chemical solution.
36. The method of claim 34 wherein the tool contains the chemical solution.

37. The method of claim 34 wherein the moving step comprises pumping a fluid into the wellbore behind the dart.

38. The method of claim 34 wherein the moving step comprises allowing the dart to free fall by gravity.

39. The method of claim 16 wherein the tool comprises a frac plug, a bridge plug, or a packer.

40. A system for applying a chemical solution to a downhole tool to dissolve the tool within a wellbore.
41. The system of claim 40 further comprising an enclosure for containing the chemical solution.
42. The system of claim 41 wherein the enclosure is disposed on the tool.
43. The system of claim 41 further comprising an activation mechanism for releasing the chemical solution from the enclosure.
44. The system of claim 43 wherein the activation mechanism is a frangible enclosure body.
45. The system of claim 43 wherein the activation mechanism is mechanically operated.
46. The system of claim 43 wherein the activation mechanism is hydraulically operated.
47. The system of claim 43 wherein the activation mechanism is electrically operated.
48. The system of claim 43 wherein the activation mechanism is operated by a communications means.

49. The system of claim 43 wherein the activation mechanism is timer-controlled.
50. The system of claim 41 wherein the enclosure is broken to release the chemical.
51. The system of claim 50 wherein the enclosure is lowered to the tool on a slick line.
52. The system of claim 50 wherein the enclosure is dropped into the wellbore to engage the tool.
53. The system of claim 40 further comprising a conduit extending into the wellbore to apply the chemical solution onto the tool.
54. The system of claim 40 wherein the tool is formed of a material comprising: epoxy resin, fiberglass, or a combination thereof.
55. The system of claim 40 wherein the tool is formed of a material comprising: a fiberglass and a binding agent.
56. The system of claim 40 wherein the chemical solution comprises: a caustic fluid, an acidic fluid, or a combination thereof.

57. A disposable downhole tool comprising a material that dissolves when exposed to an ultraviolet light.
58. The disposable downhole tool of claim 57 wherein the material comprises: an epoxy resin, a fiberglass, or a combination thereof.
59. The disposable downhole tool of claim 57 wherein the material comprises: a fiberglass and a binding agent.
60. The disposable downhole tool of claim 57 wherein the material is customizable to achieve a desired dissolution rate when the material is exposed to the ultraviolet light.
61. The disposable downhole tool of claim 57 wherein the tool is a frac plug, a bridge plug, or a packer.

62. A disposable downhole tool comprising a material that dissolves when exposed to a nuclear source.
63. The disposable downhole tool of claim 62 wherein the material comprises: an epoxy resin, a fiberglass, or a combination thereof.
64. The disposable downhole tool of claim 62 wherein the material comprises: a fiberglass and a binding agent.
65. The disposable downhole tool of claim 62 wherein the material is customizable to achieve a desired dissolution rate when the material is exposed to the nuclear source.
66. The disposable downhole tool of claim 62 wherein the tool is a frac plug, a bridge plug, or a packer.

67. A method for performing a downhole operation wherein a downhole tool is disposed within a wellbore comprising dissolving the tool within the wellbore via an ultraviolet light.
68. The method of claim 67 wherein the tool is fabricated from a material comprising: epoxy resin, fiberglass, or a combination thereof.
69. The method of claim 67 wherein the tool is fabricated from a material comprising: a fiberglass and a binding agent.
70. The method of claim 67 further comprising fabricating the tool from a material that may be customized to achieve a desired dissolution rate of the tool.
71. The method of claim 67 further comprising altering the operating parameters of the ultraviolet light to achieve a desired dissolution rate of the tool.
72. The method of claim 67 wherein the tool comprises a frac plug, a bridge plug, or a packer.
73. The method of claim 67 further comprising catalyzing dissolution of the tool within the wellbore by exposing the tool to a chemical solution.

74. A method for performing a downhole operation wherein a downhole tool is disposed within a wellbore comprising dissolving the tool within the wellbore via a nuclear source.

75. The method of claim 74 wherein the tool is fabricated from a material comprising: epoxy resin, fiberglass, or a combination thereof.

76. The method of claim 74 wherein the tool is fabricated from a material comprising: a fiberglass and a binding agent.

77. The method of claim 74 further comprising fabricating the tool from a material that may be customized to achieve a desired dissolution rate of the tool.

78. The method of claim 74 further comprising altering the operating parameters of the nuclear source to achieve a desired dissolution rate of the tool.

79. The method of claim 74 wherein the tool comprises a frac plug, a bridge plug, or a packer.

80. The method of claim 74 further comprising catalyzing dissolution of the tool within the wellbore by exposing the tool to a chemical solution.